

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 January 2001 (25.01.2001)

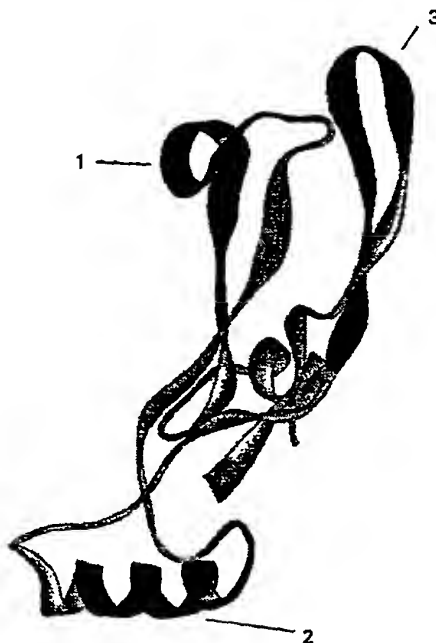
PCT

(10) International Publication Number
WO 01/05820 A2

- (51) International Patent Classification⁷: C07K 14/00 (72) Inventors; and
(75) Inventors/Applicants (for US only): HALKIER, Torben [DK/DK]; Lyngvej 5, DK-2680 Solrød Strand (DK). MOURITSEN, Søren [DK/DK]; Høveltevej 78, DK-3460 Birkerød (DK). KLYSNER, Steen [DK/DK]; Sandvig-gårdsvej 10, DK-3400 Hillerød (DK).
- (21) International Application Number: PCT/DK00/00413
- (22) International Filing Date: 20 July 2000 (20.07.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (74) Agent: KOEFOED, Peter; M & E Biotech A/S, Kogle Allé 6, DK-2970 Hørsholm (DK).
- (30) Priority Data:
PA 1999 01014 20 July 1999 (20.07.1999) DK
60/145,275 26 July 1999 (26.07.1999) US
- (81) Designated States (national): AE, AG, AL, AM, AT, AT (utility model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, CZ (utility model), DE, DE (utility model), DK, DK (utility model), DM, DZ, EE, EE (utility model), ES, FI, FI (utility model), GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK
- (71) Applicant (for all designated States except US): M & E BIOTECH A/S [DK/DK]; Kogle Allé 6, DK-2970 Hørsholm (DK).

[Continued on next page]

(54) Title: METHOD FOR DOWN-REGULATING GDF-8 ACTIVITY



(57) Abstract: Disclosed are novel methods for increasing muscle mass by means of immunization against Growth Differentiation Factor 8 (GDF-8, myostatin). Immunization is preferably effected by administration of analogues of GDF-8 which are capable of inducing antibody production against homologous GDF-8. Especially preferred as an immunogen is homologous GDF-8 which has been modified by introduction of one single or a few foreign, immunodominant and promiscuous T-cell epitopes while substantially preserving the tertiary structure of the homologous GDF-8. Also disclosed are nucleic acid vaccination against GDF-8 and vaccination using live vaccines as well as methods and means useful for the vaccination. Such methods and means include methods for identification of useful immunogenic GDF-8 analogues, methods for the preparation of analogues and pharmaceutical formulations, as well as nucleic acid fragments, vectors, transformed cells, polypeptides and pharmaceutical formulations.

2092250-24E-TEEDOT

WO 01/05820 A2